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09/645,827

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EXAMINER

ABOAGYE, MICHAEL

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* DALE C. FLANDERS and PETER S. WHITNEY

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Appeal 2010-005807  
Application 09/645,827  
Technology Center 1700

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Before CHARLES F. WARREN, TERRY J. OWENS, and  
CATHERINE Q. TIMM, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL<sup>1</sup>

I. STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's  
decision to reject claims 1, 3-8, 17, 19, and 20 under 35 U.S.C. § 103(a) as

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<sup>1</sup> The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the "MAIL DATE" (paper delivery mode) or the "NOTIFICATION DATE" (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

unpatentable over Wolfgang<sup>2</sup> in view of Kang<sup>3</sup> (Third Appellants' Brief filed Sept. 28, 2009 (Br.); Examiner's Office Action mailed Jan. 22, 2009 (Action)). We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

The invention relates to an apparatus for producing an optical system. The apparatus includes a pick-and-place machine that functions to solder bond mounting structures to optical benches. Claim 1 is illustrative:

1. An optical system production line, comprising  
an optical bench supply that provides optical benches;  
a component supply that provides mounting structures holding optical components;  
a pick-and-place machine that receives optical benches from the bench supply, picks optical components from the optical component supply, and solder bonds the mounting structures, holding the optical components, to the optical benches; and  
optical system aligner that characterizes the positions of the optical components held by the mounting structures, which have been solder bonded to the optical benches by the pick-and-place machine, and mechanically adjusts the relative positions of the optical components by plastically deforming the mounting structures, which have been bonded to the optical benches by the pick-and-place machine.

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<sup>2</sup> Wolfgang Andreasch et al., *Flexible Automated Assembly of Micro-optical Elements (Optical SMD)*, Microrobotics: Components and Applications, Proc. SPIE Vol. 2906, Dec. 1996, at 162 (as Appellants and the Examiner refer to this reference as "Wolfgang," we to the same).

<sup>3</sup> Kang et al., US 6,087,621, issued Jul. 11, 2000.

## II. DISPOSITIVE ISSUE

Appellants do not argue any claim apart from the others. We select claim 1 as representative for deciding the issues on appeal.

The sole issue in this appeal is: Does the evidence, in view of the relevant law, support the Examiner's determination that Wolfgang describes a pick-and-place machine having the structure required by claim 1?

## III. DISCUSSION

Appellants contend that “[n]either Wolfgang nor Kang shows nor suggests the use of a pick-and-place machine for solder bonding mounting structures to the benches.” (Br. 4.)

The Examiner finds that Wolfgang teaches a pick-and-place machine with a laser welding head capable of soldering the mounting structures to the benches, and cites Rhee, US 6,219,484 B1, issued Apr. 17, 2001, as evidence that laser soldering was known in the art (Action 4; Ans. 4).<sup>4</sup>

Appellants contend that the Examiner's “capable of” analysis does not comport with the law of obviousness (Reply Br. 2).

Wolfgang describes using a Nd:YAG laser of specified wavelength to laser point weld a universal holder on the mounting plate (Wolfgang, ¶ 4.1).

Rhee provides evidence that it was known in the art to use lasers to laser solder as well as use lasers to laser weld (*see, e.g.*, Rhee, col. 4, ll. 9-11).

Appellants have not persuaded us of error on the part of the Examiner.

The Examiner's analysis is premised on the concept, well settled in patent law, that a claim to an apparatus structure must be differentiated from

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<sup>4</sup> Appellants do not object to this use of Rhee and were fully aware of the Examiner's reliance on this reference (*see* Reply Br. 2).

the prior art in terms of structure. As stated in *In re Nuijten*, 500 F.3d, 1346, 1355 (Fed. Cir. 2007), “[t]he Supreme Court has defined the term ‘machine’ as ‘a concrete thing, consisting of parts, or of certain devices and combination of devices.’” (quoting *Burr v. Duryee*, 68 U.S. (1 Wall.) 531, 570, 17 L.Ed. 650 (1863)); see also *In re Danly*, 263 F.2d 844, 848 (CCPA 1959) (“Claims drawn to an apparatus must distinguish from the prior art in terms of structure rather than function”); and *In re Gardiner*, 171 F.2d 313, 315-16 (CCPA 1948) (“It is trite to state that the patentability of apparatus claims must be shown in the structure claimed and not merely upon a use, function, or result thereof.”).

While it is acceptable to include functional language in apparatus claims, *In re Swinehart*, 439 F.2d 210, 212 (CCPA 1971), doing so runs the risk that the functional language will not adequately differentiate the claimed structure from prior art structures. *Swinehart*, 439 F.2d at 213. A prior art structure that is capable of performing the function is presumed to inherently have the required structure. *In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997) and cases cited therein. When the Examiner finds a structure, that reasonably appears to be capable of performing the claimed function, the burden shifts to Appellants to show that the prior art structure is, in fact, patentably different such as by showing that it cannot perform the claimed function. See *In re Ludtke*, 441 F.2d 660, 664 (CCPA 1971) (holding that because the examiner reasonably found that the prior art parachute canopy inherently possessed the capability of opening as claimed, the burden shifted to appellants to show that the canopy of the prior art did not inherently have the claimed functional characteristics).

In the instant case, the Examiner's finding that Wolfgang's laser would be capable of performing a solder bonding operation is reasonable, particularly in light of the known use of lasers for solder bonding as evidenced by Rhee. The burden, therefore, shifted to Appellants to show that the claimed function of solder bonding patentably distinguishes the claimed structure (pick-and-place machine that performs solder bonding) from the prior art structure (pick-and-place machine with laser welder). Appellants provide no such evidence.

The evidence, when considered in light of the relevant law, supports the Examiner's determination that Wolfgang describes a pick-and-place machine having the structure required by claim 1.

#### IV. CONCLUSION

On the record before us, we sustain the rejection maintained by the Examiner.

#### V. DECISION

The decision of the Examiner is affirmed.

#### VI. TIME PERIOD FOR RESPONSE

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

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